

REMARKS

Status of the Application

Claims 1 in the 3-19 are pending in the application and have been examined.

With this Amendment, Applicant amends claims 1, 7, and 17. Applicant submits that the amended claims are fully supported by the disclosure. No new matter has been added.

Formal Matters

Applicant thanks the Examiner for considering the references submitted with the Information Disclosure Statement filed on June 19, 2009.

Claim Rejections

Claims 1 and 3-19 --- 35 U.S.C. §§ 102(b)/103(a)

Claims 1 and 3-19 are rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 6,366,056 to Podrazhansky *et al.* ("Podrazhansky"). Applicant traverses this rejection.

Addressing claim 1, Podrazhansky does not disclose or suggest at least "carrying out an intermittent power feeding in which a power feeding and a pause are repeatedly executed, when a lithium ion secondary battery is ***discharged with not less than a predetermined discharge rate to an end voltage***," as recited in the claim.

Podrazhansky discloses only a method of ***fast charging*** lithium-based batteries. Podrazhansky does not address battery discharge during intermittent power feeding (*i.e.*, supplying power from the battery to a load). To the extent that Podrazhansky discloses discharging the battery, discharging is only ***performed as a portion of the charging process*** (column 8, lines 46-58). As illustrated in FIG. 1 of Podrazhansky, only one or two successive

discharge pulses are provided during the charging process. Thus, Podrazhansky fails to disclose carrying out an intermittent power feeding, *i.e.*, discharging the battery by providing power to a load, in which a power feeding and a pause are repeatedly executed, as required by the claim.

Podrazhansky discloses a dendrite removal stage in which discharge pulses (4, 10, 17) with fixed amplitude and duration are provided during the charging process (column 8, lines 33-34; FIG. 1). Additionally, limited discharging of the battery during the charging process is provided as a method of removing unwanted lithium plating on the electrodes which occurs during charging. Podrazhansky discloses that a plating removal stage comprises a plurality of alternating charge pulses and discharge pulses separated by rest periods (column 8, lines 46-58; FIG. 1). As illustrated in FIG. 1, pulses 12 are provided for lithium plating removal during the charging process (column 8, lines 17-63).

Thus, the method of Podrazhansky only discloses a process for ***charging*** lithium-based batteries in which ***one or two intermittent discharge pulses*** are provided for removal of lithium dendrites and plating which form as the result of the charging process. Podrazhansky, however, is silent as to "carrying out ***an intermittent power feeding*** in which a power feeding and a pause are repeatedly executed, when a lithium ion secondary battery is ***discharged with not less than a predetermined discharge rate to an end voltage,***" as recited in claim 1.

Accordingly, since Podrazhansky fails to disclose or suggest all of the claimed features, claim 1 is not anticipated or rendered obvious by the cited reference. Therefore, claim 1 is patentable over Podrazhansky. Claims 7 and 17 contain features similar to the features recited in claim 1 and are therefore patentable for similar reasons. Claims 3-6, 8-16, 18 and 19 are patentable at least by virtue of their dependencies from one of claims 1, 7 and 17.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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